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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,908	06/14/2006	Yong Jiang	NL03 1494 US1	4998
24738 7590 12/11/2007 PHILIPS ELECTRONICS NORTH AMERICA CORPORATION INTELLECTUAL PROPERTY & STANDARDS 370 W. TRIMBLE ROAD MS 91/MG SAN JOSE, CA 95131			EXAMINER RALIS, STEPHEN J	
			ART UNIT 3742	PAPER NUMBER
			MAIL DATE 12/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,908

Applicant(s)

JIANG ET AL.

Examiner

Stephen J. Ralis

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/14/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Applicant's claim for foreign priority benefit of European Application No. 03104734.3, filed 28 May 2004, is acknowledged.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

The "duty to disclose" statement is incorrect. The statement should read –I acknowledge the duty to disclose information which is material to patentability of this application in accordance with Title 37, Code of Federal Regulations Section 1.56. –.

A new oath or declaration with the correct "duty to disclose" statement in compliance with 37 CFR 1.67(a) is required.

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

The Specification is objected to because it does not meet the requirements of a Specification as mentioned above. Applicant is reminded that no new matter can be entered with the submittal of a new Specification. Appropriate correction is required.

Abstract

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In the instant case, the Abstract contains legal phraseology as well as undesired phrases (e.g. The invention relates to...)

Title

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Steam ironing device having plural heating elements and valve control circuit to control fluid flow rate to power of heating means ratio.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the bottom side" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the power" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the flow rate" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the opening and closing" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the ratio" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Joint Inventors – Common Ownership Presumed

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. Publication No. 2006/0005437) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265).

Krishnan discloses a steam ironing device (Title) comprising a steam iron (see Figure 1) having a housing (1), a heatable soleplate (2) at the bottom side of the housing (1) and at least one steam outlet opening (16), the ironing device comprising a

water supply device (water reservoir 4), a steam generator (5) for generating steam, heating means (track 19) for heating the steam generator (5), a flow path between the steam generator (5) and the steam outlet openings (16); an electric pump (6) for delivering water from the water supply device (water reservoir 4) to the steam generator (5), characterized in that the ironing device (Title) comprises control means (control device 7): for controlling the power of the heating means (track 19) of the steam generator (5); for controlling the flow rate of the pump (6), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Krishnan discloses all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

Krishnan further discloses all of the limitations of the claimed invention, as previously set forth, except for a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 in a range of 1:23 to 1:30.

However, a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67). In addition, Van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Krishnan with an atomization device as taught by Maykemper in order to provide a mechanism that

prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Krishnan with the steam valve in the steam pipe between the steam generator and the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device.

10. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnan (U.S. Publication No. 2006/0005437) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

The Krishnan-van der Meer-Maykemper combination discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path

if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well a narrowing perforations (206, 306) in the front tip of the soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path (second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Krishnan-van der Meer-Maykemper combination with the nozzles in the front portion

of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

11. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265).

Netten et al. disclose a steam ironing device (Title) comprising a steam iron (see Figure 1, 6, 7) having a housing, a heatable soleplate (2) at the bottom side of the housing and at least one steam outlet opening (steam vents 20), the ironing device comprising a water supply device (water tank 8), a steam generator (steam chamber 12) for generating steam, heating means (heating element 18) for heating the steam generator (steam chamber 12), a flow path between the steam generator (steam chamber 12) and the steam outlet openings (steam vents 20); an electric pump (water pump 10) for delivering water from the water supply device (water reservoir 4) to the steam generator (steam chamber 12), characterized in that the ironing device (Title) comprises control means (controller 16 and thermostat not shown): for controlling the power of the heating means (heating element 18) of the steam generator (steam chamber 12); for controlling the flow rate of the pump (water pump 10), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Netten et al. disclose all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

Netten et al. further discloses all of the limitations of the claimed invention, as previously set forth, except for a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 or in a range of 1:23 to 1:30.

However, a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67). In addition, Van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding

temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Netten et al. with an atomization device as taught by Maykemper in order to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the steam valve in the steam pipe between the steam generator and the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device.

12. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

The Netten-van der Meer-Maykemper combination discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well a narrowing perforations (206, 306) in the front tip of the soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path (second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further

teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Netten-van der Meer-Maykemper combination with the nozzles in the front portion of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front portion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,035,563 to Hoefer et al. is a teaching of a steam iron comprising a pump communicating to an atomization device.

U.S. Patent No. 6,035,563 to Stutzer et al. is a teaching of a steam iron comprising an atomization device.

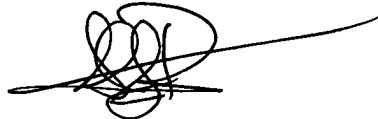
U.S. Patent No. 6,446,370 to Ostermaier is a teaching of a steam iron comprising a pump from a water reservoir to a steam chamber.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephen J Ralis
Examiner
Art Unit 3742

SJR
November 30, 2007



QUANG VAN
PRIMARY EXAMINER